



Visa/Microsoft
Secure Payment for Electronic Commerce
November 3, 1994

P-0562

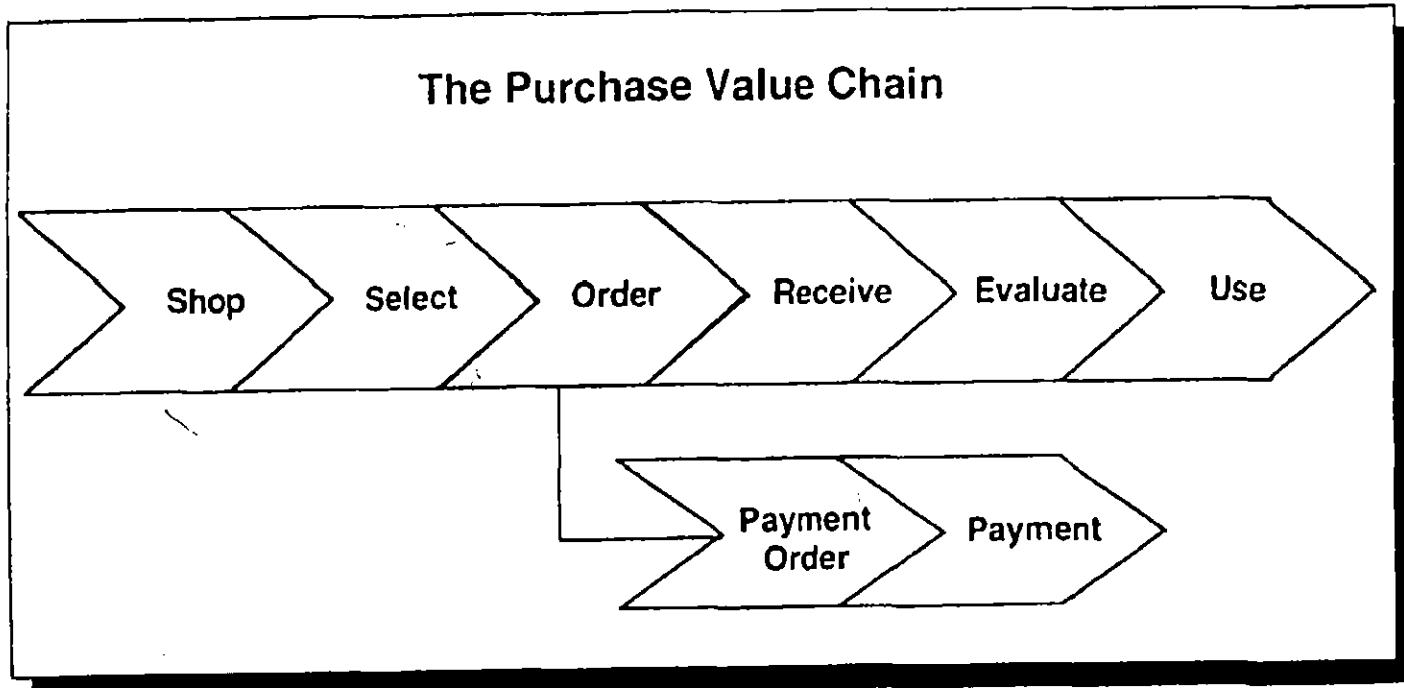
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GOVERNMENT
DEPOSITION
EXHIBIT
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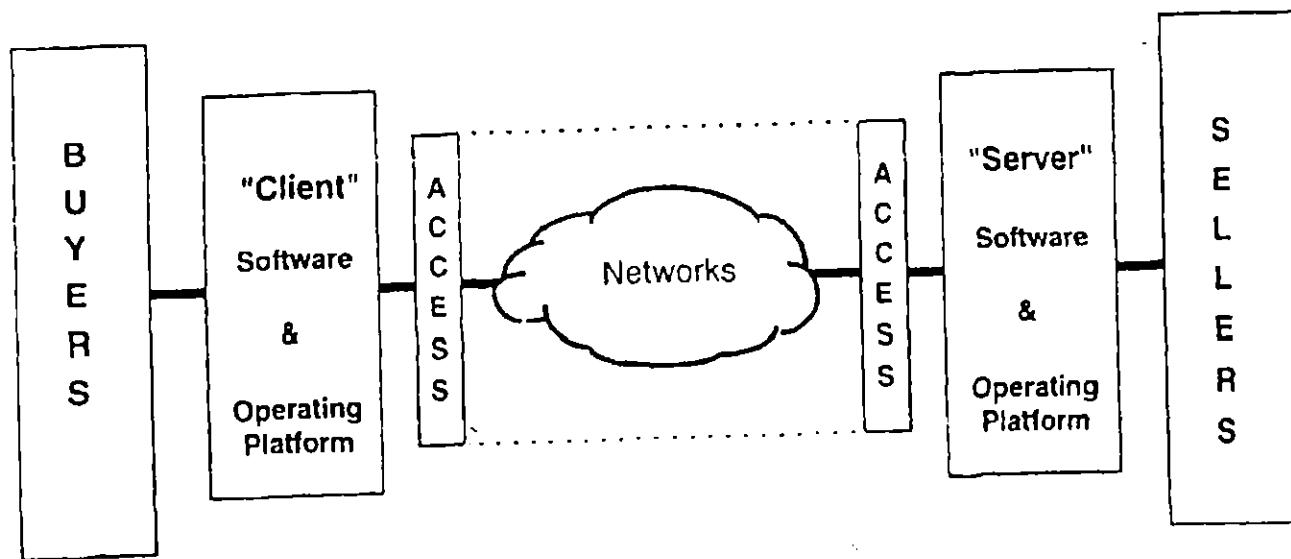


Electronic Commerce Definition

Any purchase transaction in which the shopping and / or ordering components of the purchase value chain are electronic



Network-Based Electronic Commerce Channels



JJH: 9/26

Visa Confidential



Proposed Electronic Commerce Goals

- Facilitate Electronic Commerce Marketplace growth
 - More electronic commerce transactions mean more card usage, i.e., cash not accepted.
- Strengthen and advantage the Visa "Brand"
 - Dominate consumer and commercial card markets
 - Leverage current and future Visa systems
- Maintain control over Visa Payment Services
 - Reduce / deflect third party processor and non-bank power
- Preserve and strengthen Member bank customer relationships
- Strengthen merchant acceptance / preference of Visa

The Visa/Microsoft Collaboration: Objective



- Highly visible Visa launch into Electronic Commerce on the Information Highway
- Jointly define a secure payment methodology for Electronic Commerce
 - Authenticate Visa cardholders and merchants
 - Ensure that no critical Visa account information appears in the clear
- Implement in software, using Public Key Cryptography
- Offer to Financial Industry as proposed standard

Background: Use of Secret (Symmetric) Key

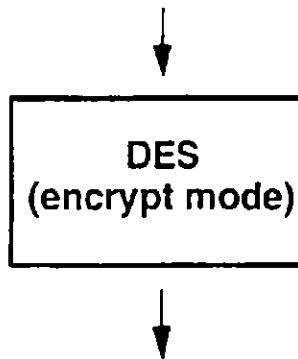
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Example: PIN at an ATM - Data Encryption Standard (DES)

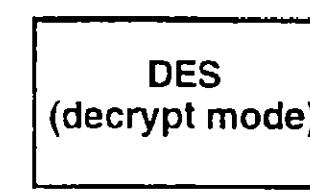
Encryption

CLEAR DATA (e.g., PIN)



Decryption

ENCRYPTED DATA



Same
SECRET KEY

ENCRYPTED DATA

CLEAR DATA (e.g., PIN)

Background: Use of Public (Asymmetric) Key

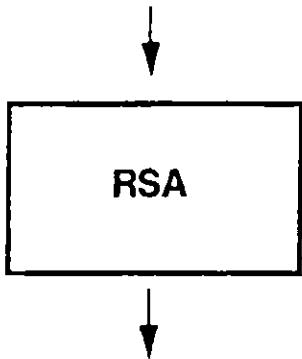
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Example: RSA Algorithm Using Key Pair (1,2)

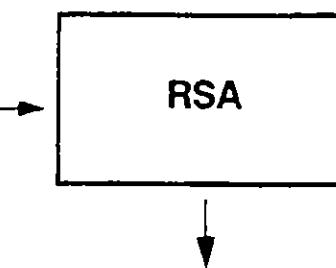
Encryption

CLEAR DATA

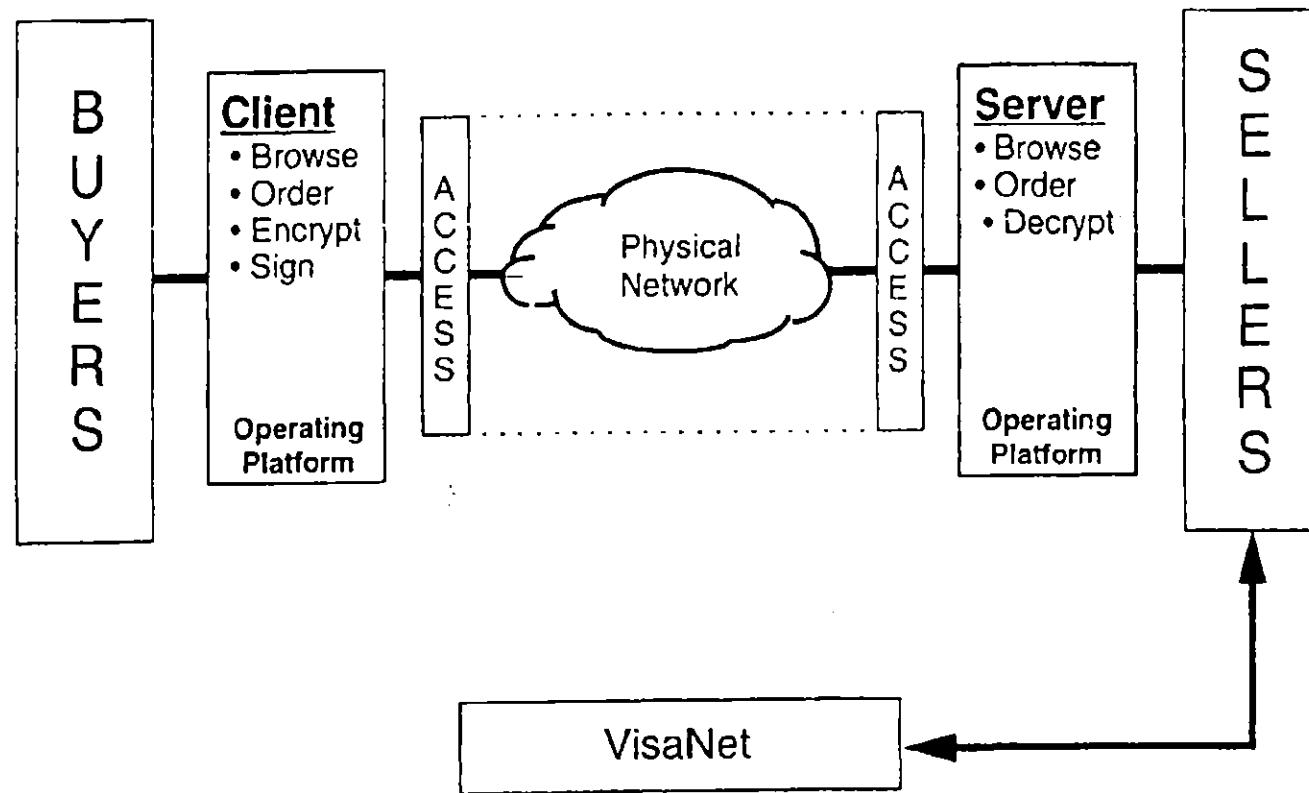


Decryption

ENCRYPTED DATA



System Overview: Preferred Embodiment



JJH: 10/94

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System Overview: Alternative Embodiment

